

AMENDMENTS TO THE CLAIMS

Amend the claims as follows::

Claims 1-34. (canceled)

35. (new) A non-human animal having a mutated LAT gene coding for a mutant LAT protein, wherein said mutant LAT protein leads to an exaggerated TH2 cell differentiation.

36. (new) The non-human animal according to claim 35, wherein the sequence of said mutant LAT protein corresponds to a wild type sequence and contains a single mutation of the tyrosine corresponding to Y136 in the mouse LAT protein.

37. (new) The non-human animal according to claim 36, wherein said mutated LAT gene coding for a mutant LAT protein comprises exon 7 of the mutated gene (SEQ ID No 2).

38. (new) The non-human animal according to claim 35, wherein the sequence of said mutant LAT protein contains a composite mutation of the three distal tyrosine residues.

39. (new) The non-human animal according to claim 35, wherein said non-human animal is a mammal.

40. (new) The non-human animal according to claim 39, wherein said mammal is a rodent.

41. (new) The non-human animal according to claim 40, wherein said rodent is a mouse.

42. (new) The non-human animal according to claim 35, wherein said mutation consists in the replacement of the tyrosine by a residue preventing the association of the "tyrosine-based" sequences with the SH2 domain of proteins.

43. (new) The non-human animal according to claim 36, wherein said single mutation consists in the replacement of the tyrosine by a phenylalanine (Y-F), an aspartic acid (Y-D) or a glutamic acid (Y-E).

44. (new) The non-human animal according to claim 43, wherein said single mutation consists in the replacement of the tyrosine by a phenylalanine (Y-F).

45. (new) The non-human animal according to claim 35, wherein said non-human animal is homozygous for the mutated LAT gene or carries a null allele of the LAT gene.

46. (new) The non-human animal according to claim 35, wherein said mutated LAT gene is incorporated into the animal genome by targeted insertion in order to keep said mutated LAT gene under the control of regulatory regions of the endogeneous LAT gene.

47. (new) A germ cell or somatic cell from a non-human animal according to claim 35 or any progeny thereof containing the mutated LAT gene.

48. (new) A method of screening for drugs for treatment of allergy, asthma and/or disease associated with TH2 cell deregulation comprising:

1) administering a candidate drug to a non-human animal according to claim 35;

2) evaluating the effect of said drug on the symptom or sign of allergy, asthma and/or disease associated with TH2 cell deregulation; and

3) selecting the drug that reduces said symptom or sign;

thereby identifying a drug for treatment of allergy, asthma and/or disease associated with TH2 cell deregulation.

49. (new) The method according to claim 48, wherein said effect of said drug can be evaluated by measuring at least one parameter selected from the group consisting of IgE level, IgG1 level, interleukin level, and eosinophilia.

50. (new) The method according to claim 49, wherein said effect of said drug can be evaluated by measuring the serum level of IgE or IgG1.

51. (new) A method of screening drugs for treatment of allergy, asthma and/or disease associated with TH2 cell deregulation comprising:

- 1) subjecting cells according to claim 47 to a candidate drug;
- 2) evaluating the effect of said drug on said cells;
- 3) selecting the drug having the desired effect;

thereby identifying a drug for treatment of allergy, asthma and/or disease associated with TH2 cell deregulation.

52. (new) A method of screening for drugs that regulate the activity of TH2 cells, comprising:

- 1) administering a candidate drug to a non-human animal according to claim 35; and
- 2) selecting a drug that modulates the activity of TH2 cells in said non-human animal.

53. (new) A method of producing a pharmaceutical composition for treating a disease associated with deregulated TH2 cells activity, the method comprising (i) selecting, identifying, optimizing or characterizing a compound using a screening method according to claim 52 and (ii) conditioning said compound, or a derivative thereof, in a pharmaceutically acceptable carrier or vehicle.

54. (new) A method of production of humanized IgE antibodies comprising:

1) providing a non-human animal expressing humanized IgE;

2) breeding said animal expressing humanized IgE with a non-human animal according to claim 35;

3) immunizing the animal of the progeny with an allergen;

4) recovering humanized IgE specific to said allergen.

55. (new) The method according to claim 54, wherein step 4 comprises producing B cell hybridomas producing said humanized IgE specific to said allergen.

56. (new) A B cell hybridoma obtained by the method according to claim 55.

57. (new) A mutated mouse gene coding for a mutant LAT protein, the sequence of which corresponds to a wild type sequence and contains a single mutation of the tyrosine Y136 or a composite mutation of the three distal tyrosine residues.

58. (new) The mouse gene according to claim 57, wherein said mutation consists in the replacement of the tyrosine by a phenylalanine (Y-F), an aspartic acid (Y-D) or a glutamic acid (Y-E).

59. (new) The mouse gene according to 58, wherein said mutation consists in the replacement of the tyrosine by a phenylalanine (Y-F).

60. (new) The mouse gene according to 57, wherein the sequence corresponds to sequence ID N°1.

61. (new) The mouse gene according to 57, wherein the sequence contains exon 7 of the mutated gene (SEQ ID N°2).

62. (new) A diagnostic method for asthma, allergy, eosinophilia and/or TH2 cells deregulation comprising the detection of a mutated LAT gene coding for a mutant LAT

protein containing a single mutation of the tyrosine Y132 or a composite mutation of the three distal tyrosines Y171, Y191 and Y226, thereby the detection of said mutated LAT gene is indicative of asthma, allergy, eosinophilia and/or TH2 cells deregulation.

63. (new) A diagnostic kit for asthma, allergy, eosinophilia and/or TH2 cells deregulation comprising oligonucleotide probes for the detection of a mutated LAT gene coding for a mutant LAT protein containing a single mutation of the tyrosine Y132 or a composite mutation of the three distal tyrosines Y171, Y191 and Y226, wherein the detection of said mutated LAT gene is indicative of asthma, allergy, eosinophilia and/or TH2 cells deregulation.

64. (new) A non-human animal resulting from the breeding of a non-human animal expressing humanized IgE with the non-human animal according to claim 35.